REMARKS

This application was pending with claims 1 through 10 and 12 through 17. No claims were allowed. Claim 14 is canceled. Claims 1 through 13 and 15 are amended. Claims 1 through 10, 12, 13 and 15 through 17 remain in the application

Applicant requests reconsideration and reexamination of the above-identified application in view of the amendments made to the specification and claims. The following remarks state Applicant's bases for making this request and are organized according to the Examiner's Action by paragraph number.

Examiner's Action, Paragraph 1

The Examiner objects to the title of the invention because the title of the invention is not descriptive. Applicant's amendment provides an alternative title to the title the Examiner suggested.

Examiner's Action, Paragraph 2

The Examiner rejects the abstract for a number of reasons. Applicant believes that the amendments to the abstract overcome all the specific objections the Examiner has raised.

Examiner's Action, Paragraph 3

The Examiner has objected to the drawings for a number of reasons and requires appropriate correction. Applicant is

submitting proposed drawing corrections in reply to this Office
Action. Applicant believes that the proposed amendments
overcome all the specific objections that the Examiner has
raised and, in addition, make some additional amendments that
were felt necessary on review.

Examiner's Action, Paragraph 4

The Examiner objects to the drawings arguing that they must
show every feature of the invention specified in the claims.
As amended the specification provides antecedent basis for each
feature of the invention. Applicant believes that these
amendments also provide the connections between the claim
features and the drawings.

Examiner's Action, Paragraph 5

The Examiner identifies a number of possible minor errors in
the disclosure. Applicant generally agrees with these changes
and they are made to follow the Examiner's suggestions.
Applicant has, however provided alternative amendments to the
original specification in the Abstract at lines 13 and 14 and
in the specification at page 5, line 21; page 12, line 5 and
page 30, line 18.

The Examiner requires a substitute specification to avoid
possible printing or issue review errors should any patent

issued on this application. Applicant is submitting such a substitute specification as Exhibit A.

Exhibit B is a copy of the original specification annotated to show all the changes that are being requested and incorporated in the substitute specification. Applicant respectfully submits that nothing in these amendments constitutes new matter. Consequently, Applicant states that the substitute specification contains no new matter.

The Examiner also requires some corrections to the claims. Applicant believes that the amendments to the claims incorporate appropriate corrections. The Examiner also objected to the application because of an alteration that appears at page 7.

Applicant is attaching a properly executed Declaration which complies with 37 CFR 1.67(a).

Examiner's Action, Paragraph 6

The Examiner rejects claims 1 through 17 under 35 U.S.C. 112, second paragraph for a number of states reasons. Applicant believes that the amendments to the claims overcome all the Examiner's bases for rejection.

Examiner's Action, Paragraph 7

The Examiner rejects claims 12 and 13 under 35 U.S.C. 112, fourth paragraph. Applicant believes that claim 12 does define

something that is different from claim 1. While claim 1 defines a data node that can operate with different cache memory management methods, it also defines first and second sites that use different cache memory management methods. Claim 12 covers the case where there are more than two data nodes and wherein each data node operates with a different selected cache memory management method. Consequently Applicant believes that there are situations in which claim 12 defines Applicant's invention in terms of narrowing scope.

With respect to claim 13, Applicant has changed the dependence to claim 1 from claim 12. Applicant has also canceled claim 14.

Examiner's Action, Paragraph 8

The Examiner rejects claims 1 through 4 and 12 through 14 under 35 U.S.C. 102(b) as being anticipated by either a Willick et al article or Korner article. Applicant has reviewed the Examiner's arguments and comments.

Applicant respectfully traverses this rejection.

The Willick et al. article cites the Korner article, so in the following discussion the Korner article is discussed first. Specifically, the Korner article describes the results of a study for determining which of three specific caching algorithms is best over a range of operating conditions. The caching algorithm is used for interfacing an operating system

with a disk storage device. As Applicant understands the article, the study was to define which one of all the different algorithms studied should be selected for all applications. A Least Recently Used (LRU) algorithm was tested against an optimal server with precise knowledge of future file operations and an intelligent server of a sort not previously proposed. The intelligent server is based upon file extension information. The conclusion was that additional testing should be accomplished. However, the important point is that to a person of ordinary skill in the art the Korner article is describing an algorithm which should be used exclusively in a disk caching system. Applicant sees nothing in this that would suggest the use of different cache memory management methods at a single data node under different operating conditions.

The Willick et al. article provides an extension of this effort by Korner. The caching algorithm study is applied to a main memory disk cache at a workstation and at a file server. The discussion is related to communications between a central processor unit with its operating system and a disk. This article defines several different cache replacement policies or caching algorithms including a Least Recently Used, Least Frequency Used (LFU), Frequency Based Replacement (FBR), a MIN algorithm and a RAND algorithm. The LRU algorithm replaces a block in cache that has not been used for the longest time. The LFU algorithm counts the use of each block in cache. The

FBR method maintains and LRU ordering of all blocks in the cache, but makes a decision on the basis of frequency count. The MIN algorithm is a theoretically optimal replacement algorithm that replaces a block which will not be used for the longest period of time. However, it is noted this is impossible to implement because it requires future knowledge. The RAND algorithm randomly selects a block.

The Willick et al. article evaluates each of these and finds basically that the different ones of these algorithms are better used in different configurations. However, it again appears that the article is merely suggesting the use of a caching algorithm between a disk and its host based upon specific criteria. Applicant sees nothing in this that would suggest the use of a selection from multiple cache memory methods at a single data node under different operating conditions.

Applicant therefore considers that the prior art basically teaches that different caching algorithms are available. However, the prior art approach is to select one of those algorithms based on hardware configuration or anticipated usage and then to apply that algorithm to the exclusion of all others. Applicant's claim however is directed to another approach. First, Applicant's claim is directed to the structure of a data node that normally will include a central processing unit and a cache memory device that is coupled to a

network to receive data from or transmit data to the network. The cache memory manager, as claimed, has the ability to select one of at least two different cache memory management methods. As will be apparent, this selection can be based upon dynamic conditions at a particular data node. Further as claimed, the selected memory management methods at two different data nodes can be different methods.

Applicant respectfully submits that this feature is novel and is not suggested by any of the prior art has cited. Applicant therefore respectfully requests the Examiner to reconsider the rejections and to allow claims 1 through 13 and 15 through 17.

If there are any questions, we urge the Examiner to call us collect.

Respectfully Submitted,

GEORGE A. HERBSTER,
Attorney, Reg. No. 24,002
40 Beach Street
Manchester, MA 01944
(978) 526-8111

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re   :   Allan Scherr

Serial No.   :   10/036,547

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FOR   :   Network Accelerator

EXAMINER   :   Glenn A. Gossage

ART UNIT   :   2187

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Abstract of the Disclosure

   Please amend the Abstract of the Disclosure as shown in

Exhibit B.

In the Specification

   Please amend the Specification as shown in Exhibit B.

In the Claims

Please amend claims 1 through 10, 12, 13 and 15 as follows:

1 (Amended). A data node at each of <u>at least</u> first and second

   sites in a data network [comprising] <u>wherein each of said</u>

   <u>data nodes comprises</u>:

      A)   a cache memory device [connected] <u>coupled</u> to the

            data network, and

B)   a cache memory manager connected to said cache memory device for controlling communications between said cache memory device and other sites in the data network wherein each said cache memory manager controls transfers in response to one of at least two <u>different</u> cache [memory] management methods and wherein the cache memory management methods used at the first and second sites [is] <u>are</u> different.

2 (Amended). A data node as recited in claim 1 wherein said cache memory manager includes method storage means for storing [a] <u>the</u> plurality of <u>different</u> cache [memory] management methods and method selection means for selecting one of said cache memory management methods for controlling said cache memory device.

3 (Amended) A data node as recited in claim 2 <u>wherein said cache memory manager</u> additionally [including] <u>includes</u> monitoring means for monitoring operations at said node and said method selection means responds to said monitoring means.

4 (Amended). A data node as recited in claim 2 wherein <u>said cache memory manager</u> additionally including means for receiving commands from other nodes and said method selection means responds to the received commands.

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5 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is a least recently used cache management method.

6 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is a data usage cache management method.

7 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is a store-through cache management method.

8 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is a pre-fetch cache management method.

9 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is an indexing cache management method.

10 (Amended). A data node as recited in claim [5] 4 wherein one of said cache management methods is a charging cache management method.

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12 (Amended). A data node as recited in claim 1 wherein each [of said] data [nodes] <u>node</u> operates with a different predetermined cache memory management method.

13 (Amended). A data node as recited in claim [12] <u>1</u> wherein said cache memory manager operates [in response to] <u>with</u> a predetermined cache memory management method that is different from the cache memory management method used at [the other network site] <u>another data node</u>.

15 (Amended). A data node as recited in claim [14] <u>13</u> wherein said <u>cache memory manager includes a</u> method storage means [stores] <u>for storing</u>, for selection, least recently used, data usage, store-through, pre-fetch, indexing, Btree and charge cache memory management methods.